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(54) **GENETICALLY MODIFIED MOUSE WITH AN INDUCIBLE *ACVR1* GENE WITH A MUTANT R206H EXON 5 THAT HAS ECTOPIC BONE FORMATION**

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(58) **Field of Classification Search**

USPC 800/8, 18
See application file for complete search history.

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(57) **ABSTRACT**

A genetically modified mouse is provided that comprises a conditional *Acvr1* allele that comprises a mutated exon that, upon induction, converts to a mutant exon phenotype, wherein the mutant exon phenotype includes ectopic bone formation. Mice comprising a mutant *Acvr1* exon 5 in antisense orientation, flanked by site-specific recombinase recognition sites, are provided, wherein the mice further comprise a site-specific recombinase that recognizes the site-specific recombinase recognition sites, wherein the recombinase is induced upon exposure of the mouse to tamoxifen. Upon exposure to tamoxifen, the recombinase is expressed and acts on the RRS-flanked mutant exon 5 and places the mutant exon 5 in sense orientation and deletes the wild-type exon.

4 Claims, 12 Drawing Sheets

